## Problem Statement-8

```java
package datastructures;
public class Quicksort{

    int partition(int arr[], int low, int high)
    {
        int pivot = arr[high];
        int i = (low-1); // index of smaller element
        for (int j=low; j<high; j++)
        {
            if (arr[j] <= pivot)
            {
                i++;
                // swap arr[i] and arr[j]
                int temp = arr[i];
                arr[i] = arr[j];
                arr[j] = temp;
            }
        }
        // swap arr[i+1] and arr[high] (or pivot)
        int temp = arr[i+1];
        arr[i+1] = arr[high];
        arr[high] = temp;
        return i+1;
    }
    void sort(int arr[], int low, int high)
    {
        if (low < high)
        {
            int pi = partition(arr, low, high);

            sort(arr, low, pi-1);
            sort(arr, pi+1, high);
        }
    }
    static void printArray(int arr[])
    {
        int n = arr.length;
        for (int i=0; i<n; ++i)
            System.out.print(arr[i]+" ");
        System.out.println();
    }
    // Driver program
    public static void main(String args[])
    {
        int arr[] = {10, 7, 8, 9, 1, 5};
        int n = arr.length;
        Quicksort ob = new Quicksort();
        ob.sort(arr, 0, n-1);
```

```java
        System.out.println("sorted array");
        printArray(arr);
    }
}
```

Quicksort.java ×

```java
 1  package datastructures;
 2
 3  public class Quicksort{
 4
 5⊖      int partition(int arr[], int low, int high)
 6      {
 7          int pivot = arr[high];
 8          int i = (low-1); // index of smaller element
 9          for (int j=low; j<high; j++)
10          {
11              if (arr[j] <= pivot)
12              {
13                  i++;
14
15                  // swap arr[i] and arr[j]
16                  int temp = arr[i];
17                  arr[i] = arr[j];
18                  arr[j] = temp;
19              }
20          }
21
22          // swap arr[i+1] and arr[high] (or pivot)
23          int temp = arr[i+1];
24          arr[i+1] = arr[high];
25          arr[high] = temp;
26
27          return i+1;
```

Problems  @ Javadoc  Declaration  Console ×

<terminated> Quicksort [Java Application] C:\Users\Swaroop\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_
sorted array
1 5 7 8 9 10